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EXAMINER	
LEE, CHUN KUAN	

ART UNIT	PAPER NUMBER
2181	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/725,980	DANILAK, RADOSLAV	
	Examiner	Art Unit	
	Chun-Kuan (Mike) Lee	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

RESPONSE TO ARGUMENTS

1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection. Currently, the objection to the Drawings of Figure 1 is maintained. Claims 1-22 are pending for examination.

2. In response to applicant's arguments, on page 8, 2nd paragraph, regarding the objection to Figure 1 of the Drawings that because Figure 1 describes an embodiment of the present invention, such as executing disk I/O which bypasses the prior art ATA step of writing to a set of register in the disk controller to implement a disk transaction, describing the processor using the start up delay to build disk transaction information by packaging a plurality of data structure and implementing the disk transaction much sooner in comparison to the prior art; applicant's argument have fully been considered, but are not found to be persuasive.

The examiner respectfully disagrees, because in accordance to applicant's disclosure associated to Figure 1, "Figure 1 shows a diagram depicting a computer system 100 showing the basic components of a computer system platform that may be used to implement the functionality of an embodiment of the present invention" (Specification, p. 10, ll. 1-3); more specifically, the components disclosed in Figure 1 are basic components that are well known, and the examiner is relying on these basic components for rejection, not the instant application's procedure for bypass disk

transaction that these basic component are embodied. Additionally, it appears that Figure 1 does not disclose the application's component (e.g. bypass register) that is required to enable the invention, such as the examples that the applicant gave above.

3. In response to applicant's arguments, on page 9, 3rd paragraph, regarding the rejection of the amended independent claim 14 rejected under 35 U.S.C. 103(a) that AAPA cannot be utilized as prior art for rejection because Figure 1 is not considered as prior art; applicant's arguments have fully been considered, but are not found to be persuasive.

The examiner respectfully disagrees, because as the examiner have discussed in detail above, the examiner is relying on the well known basic components of applicant's Figure 1 for rejection, not the instant application method's for bypass disk transaction that these basic component are embodied. Additionally, the examiner is relying on the Background disclosure of the application as prior art, wherein the examiner believe that the Background disclosure is considered to be prior art to the instant application.

4. In response to applicant's arguments, on page 10,.2nd paragraph to page 11, 1st paragraph, regarding the rejection of the amended independent claim 14 rejected under 35 U.S.C. 103(a) that AAPA teach away from the recited limitation; applicant's arguments have fully been considered, bur are not found to be persuasive.

The examiner respectfully disagrees, because it appears that neither the applicant's background disclosure nor the prior art reference appear to disclose that the combination as a whole would result in technological failure which preventing one to combined with the other, such as the preparation of the transaction information can only be implemented prior to transferring the command causing the start up, and that is it not possible to implement the preparation to be subsequent to the transferring of said command as this would result in technological failure; additionally, the combination of the references teaches every claimed limitation as recited in the claim.

I. INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

5. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. 1.63.**

II. INFORMATION CONCERNING DRAWINGS

Drawings

6. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

III. REJECTIONS BASED ON 35 U.S.C. 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As per claims 1, 9 and 14, it is not fully clear wherein the Specification/Drawings enable/support the amended claimed limitations of "... subsequent to transferring the command causing the start up and before the completion of said start up, preparing disk transaction information ..."

As per claims 2-8, 10-13 and 15-22, dependent claims 2-8, 10-13 and 15-22 are rejected at least due to direct/indirect dependency on the rejected independent claim 1, 9 and 14.

IV. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Wilcox (US Patent 6,185,634).

9. As per claims 1, 9 and 14, AAPA teaches a computer system and method comprising:

a processor (Drawings, Fig. 1, ref. 101);

a system memory (Drawings, Fig. 1, ref. 103) coupled to the processor;

a bridge component (Drawings, Fig. 1, ref. 102, 105) coupled to the processor; and

a disk controller (Drawings, Fig. 1, ref. 107) coupled to the bridge component;

preparing disk transaction information by packaging a plurality of PRD (physical region descriptor) data structures and a plurality of CPB (command parameter block) data structures comprising the disk transaction (Specification, page 4, ll. 9-22);

transferring the disk transaction information to the disk controller via the bridge component (Specification, page 4, ll. 22-24), wherein the bridge component is accessed as the disk transaction information is transferred;

implementing a disk I/O (e.g. disk transaction), wherein the disk controller processes the disk transaction information to control the disk drive (Specification, page 4, ll. 22-24).

AAPA does not teach the computer system and method for implementing a bypass method for efficient disk I/O (input output), comprising:

upon receiving a request for a disk I/O from ...;

subsequent to transferring the command causing the startup ...; and

the disk controller including a plurality of bypass registers ... .

Wilcox teaches a system and method comprising:

upon receiving a request for a disk I/O from an application executing on the computer system, transferring a command to the disk controller, the command causing a start up of the disk drive coupled to the disk controller (Fig. 7, ref. 202; col. 3, ll. 40-62 and col. 5, ll. 7-41);

subsequent to transferring the command causing the startup and before the completion of said start up, preparing disk transaction information (co. 11, ll. 38-62; and

the disk controller including a plurality of bypass registers (Fig. 1, ref. 56) for receiving the disk transaction information (col. 11, ll. 38-62).

It would have been obvious for one of ordinary skill in this art, at the time of invention was made to include Wilcox's disk I/O operation into AAPA's computer system and method for the benefit of reducing latency in the transferring of data to the disk drive (Wilcox, col. 2, ll. 19-23 and col. 2, ll. 51-53) to obtain the invention as specified in claims 1, 9 and 14.

10. As per claim 2, AAPA and Wilcox teach all the limitation of claim 1 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising:

preparing the disk transaction information by using a processor of the computer system (AAPA, Specification, page 4, ll. 13-14); and

transferring the disk transaction information from the processor to the disk controller (AAPA, Specification, page 4, ll. 19-22).

11. As per claim 3, AAPA and Wilcox teach all the limitation of claim 3 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising accessing a bus coupled to the disk controller to transfer the disk transaction information from the processor to the disk controller (AAPA, Drawings, Fig. 1 and Specification, page 4, ll. 19-22).

12. As per claim 4, AAPA and Wilcox teach all the limitation of claim 3 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising accessing the bridge component (AAPA, Drawings, Fig. 1, ref. 102, 105) controlling the bus coupled to the disk controller and transferring the disk transaction information from the processor to the disk controller via the bridge component (AAPA, Drawings, Fig. 1 and Specification, page 4, ll. 19-22).

13. As per claim 5, AAPA and Wilcox teach all the limitation of claim 4 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising wherein the bridge component is a South bridge (AAPA, Drawings, Fig. 1, ref. 105) of the computer system.

14. As per claim 6, AAPA and Wilcox teach all the limitation of claim 1 as discussed above, where Wilcox teaches the method for disk I/O in the computer system further comprising wherein the transferring of the command to the disk controller causing the start up of the disk drive is configured to hide a start up latency of the disk drive (Wilcox, col. 2, ll. 19-23 and col. 2, ll. 51-53).

15. As per claim 7, AAPA and Wilcox teach all the limitation of claim 1 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising wherein the disk transaction information includes a plurality of PRD (physical region descriptor) data structures and a plurality of CPB (command parameter block) data structures for implementing the disk transaction (AAPA, Specification, page 4, ll. 15-22).

16. As per claim 8, AAPA and Wilcox teach all the limitation of claim 1 as discussed above, where AAPA teaches the method for disk I/O in the computer system further comprising wherein the disk drive is compatible with a version of the ATA standard (AAPA, Specification, page 3, ll. 13-14).

17. As per claim 10, AAPA and Wilcox teach all the limitation of claim 9 as discussed above, where AAPA teaches the computer readable media further comprising wherein the bridge component is a South bridge (AAPA, Drawings, Fig. 1, ref. 105) of the computer system.

18. As per claim 11, AAPA and Wilcox teach all the limitation of claim 10 as discussed above, where AAPA teaches the computer readable media further comprising:

accessing a North bridge (AAPA, Drawings, Fig. 1, ref. 102) to transfer the disk transaction information (AAPA, Specification, page 4, ll. 19-22); and

transferring the disk transaction information from the processor to the disk controller via the North bridge (AAPA, Drawings, Fig. 1, ref. 102) and the South bridge (AAPA, Drawings, Fig. 1, ref. 105) of the computer system (AAPA, Specification, page 4, ll. 19-22).

19. As per claim 12, AAPA and Wilcox teach all the limitation of claim 9 as discussed above, where Wilcox teaches the computer readable media further comprising wherein the transferring of the command to the disk controller causing the start up of the disk drive is configured to hide a start up latency of the disk drive (Wilcox, col. 2, ll. 19-23 and col. 2, ll. 51-53).

20. As per claim 13, AAPA and Wilcox teach all the limitation of claim 9 as discussed above, where AAPA teaches the computer readable media further comprising wherein the disk drive is compatible with a version of the ATA standard (AAPA, Specification, page 3, ll. 13-14; page 4, ll. 13-14).

21. .As per claim 15, AAPA and Wilcox teach all the limitation of claim 14 as discussed above, where AAPA teaches the computer system further comprising:

preparing the disk transaction information by using a processor of the computer system (AAPA, Specification, page 4, ll. 13-14); and

transferring the disk transaction information from the processor to the disk controller (AAPA, Specification, page 4, ll. 19-22).

22. As per claim 16, AAPA and Wilcox teach all the limitation of claim 14 as discussed above, where AAPA teaches the computer readable media further comprising wherein the disk controller (AAPA, Drawings, Fig. 1, ref. 107) is integrated within bridge component (AAPA, Drawings, Fig. 1, ref. 105).

23. As per claim 17, AAPA and Wilcox teach all the limitation of claim 14 as discussed above, where AAPA teaches the computer system further comprising wherein the bridge component is a South bridge (AAPA, Drawings, Fig. 1, ref. 105) of the computer system.

24. As per claim 18, AAPA and Wilcox teach all the limitation of claim 14 as discussed above, where Wilcox teaches the computer system further comprising wherein the transferring of the command to the disk controller causing the start up of the disk drive is configured to hide a start up latency of the disk drive (Wilcox, col. 2, ll. 19-23 and col. 2, ll. 51-53).

25. As per claim 19, AAPA and Wilcox teach all the limitation of claim 14 as discussed above, where AAPA teaches the computer system further comprising wherein the disk transaction information includes a plurality of PRD (physical region descriptor) data structures and a plurality of CPB (command parameter block) data structures for implementing the disk transaction (AAPA, Specification, page 4, ll. 15-22).

26. As per claim 20, AAPA and Wilcox teach all the limitation of claim 14 as discussed above, where AAPA teaches the computer system further comprising wherein the disk drive is compatible with a version of the ATA standard (AAPA, Specification, page 3, ll. 13-14; page 4, ll. 13-14).

27. As per claim 21, AAPA and Wilcox teach all the limitation of claim 20 as discussed above, where Wilcox teaches the computer system further comprising wherein said plurality of bypass registers is operable to allow said disk controller to implement a disk transaction without writing to a register of said ATA standard (Wilcox, col. 11, ll. 38-62).

28. As per claim 22, AAPA and Wilcox teach all the limitation of claim 1 as discussed above, where Wilcox teaches the method further comprising aggregating said transaction information via a memory mapped data transfer from a processor (e.g. controller) of said computer system (Wilcox, Fig. 1, ref. 40, 42 and col. 3, l. 63 to col. 4, l. 3).

V. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, claims 1-22 have received a first action on the merits and are subject of a first action non-final.

b. DIRECTION OF FUTURE CORRESPONDENCES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 06, 2007

Chun-Kuan (Mike) Lee
Examiner
Art Unit 2181

ALFORD KINDRED
SUPERVISORY PATENT EXAMINER